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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/662,448	09/16/2003	Hisao Nakamaru	P24214	2508

7055 7590 06/28/2005

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RESTON, VA 20191

EXAMINER

MARTIN, ANGELA J

ART UNIT	PAPER NUMBER
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1745

DATE MAILED: 06/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/662,448

Applicant(s)

NAKAMARU ET AL.

Examiner

Angela J. Martin

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 September 2003.
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-3 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 12/16/03.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cailley, U.S. Pat. No. 3,732,124, in view of Coibion et al., U.S. Pat. No. 4,053,687.

Rejection of claims 1-3 drawn to a prismatic battery.

Cailley teaches a battery comprising a battery case, a wound electrode assembly, and projecting on opposite ends of the assembly by belt-shaped current collecting portions formed of bared edge portions of the metal substrates of the electrodes, the portions being not coated with active material (col. 1, lines 25-38); and a positive current collector and negative current collector welded to end faces of the current collecting portions of the electrodes (col. 1, lines 39-46); current collectors comprising a metal plate having a substantially rectangular shape conforming to a cross section of the electrode assembly (col. 2, lines 9-14); a pair of lengthwise notches extending from central locations to outer edges of plate (Fig. 5); a pair of widthwise notches extending from central locations to outer edges of metal plate (Fig. 6); and connection pieces formed on opposing edges of notches and protruding orthogonally to the plane of metal plate, wherein weld joints are formed at intersections between connection pieces and current collecting portions of electrodes (col. 3, lines 32-62). It

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teaches the widthwise notches are formed in a square shape (Fig. 6). It teaches that the lengthwise notches are opened at an angle of 45 degrees at each angle (Fig. 6).

Cailley does not teach a prismatic battery.

Coibion et al., teach a cylindrical cell comprising a wound electrode (abstract) wherein the current collectors comprise a metal plate having a substantially rectangular shape conforming to a cross section of the electrode assembly, a pair of lengthwise notches extending from central locations to outer edges of plate, a pair of widthwise notches extending from central locations to outer edges of metal plate (Fig. 2b). It also teaches that the embodiment may be transposed to a prismatic battery (col. 4, lines 55-61).

Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to insert the teachings of Coibion et al., into the teachings of Cailley because Coibion et al., teach the equivalency of the battery structures in the above embodiment of a current collector having notches in a metal plate.

Conclusion

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Nakamura et al., U.S. Pat. No. 6,013,389 and 6,010,801, teach a cylindrical battery comprising a current collector provided with cutout sections. Matsumoto et al., JP 60-105166 (abstract), teach a battery comprising a current collector provided with cutout sections. Fujita et al., JP 2002-151047 (abstract), teach a battery comprising a current collector provided with cutout sections.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Angela J. Martin whose telephone number is 571-272-1288. The examiner can normally be reached on Monday-Friday from 9:00 am to 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached on 571-272-1292. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


AJM
PATRICK JOSEPH RYAN
SUPERVISORY PATENT EXAMINER